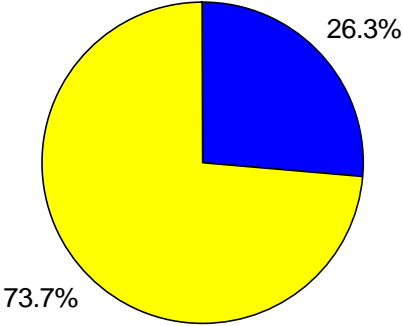


Department of Information Technology

70-06-Enterprise Technology Services

Fund/Agency: 001/70		Department of Information Technology
Personnel Services	\$4,128,733	<p>CAPS Percentage of Agency Total</p>  <p>73.7%</p> <p>26.3%</p> <p>■ Enterprise Technology Services ■ All Other Agency CAPS</p>
Operating Expenses	\$5,842,385	
Recovered Costs	\$0	
Capital Equipment	\$610,000	
Total CAPS Cost:	\$10,581,118	
Federal Revenue	\$0	
State Revenue	\$0	
User Fee Revenue	\$0	
Other Revenue	\$13,862,998	
Total Revenue:	\$13,862,998	
Net CAPS Cost:	(\$3,281,880)	
Positions/SYE involved in the delivery of this CAPS	58/58	

► CAPS Summary

The Enterprise Technology Services (ETS) CAPS in the Department of Information Technology (DIT) provides the technology infrastructure framework for enterprise computing in Fairfax County. Services are provided for all County agencies, as well as the Fairfax County Public Schools, the Fairfax County Water Authority, and Circuit, General District, and Juvenile and Domestic Relations Courts. ETS provides a single point for enterprise data access, storage, hardcopy and recovery needs, and performs comprehensive platform architecture support services for mainframes, NT and Unix servers, PC's, operating systems, databases, middle-ware technology, and print services.

ETS maintains the County infrastructure standards and serves as a consultant to County agencies providing system integration services that meet County business architecture requirements from assessment through operation for commercial-off-the-shelf (COTS) and custom developed applications, as well as providing continuous infrastructure improvements to enable the County to easily adapt to constant change in service delivery requirements.

Department of Information Technology

ETS actively participates and/or consults with agencies in the following areas:

- operating system and middleware hardware/software configuration, management, and monitoring;
- system development;
- technology architecture requirements for new systems;
- system problem resolution;
- database design, and administration; and
- server procurement and installation and monitoring.

Background:

Enterprise Technology Services (ETS) provides platform, database and middle-ware architecture support for over 200 applications and 10,000 users in the County. Not only serving day-to-day needs and problem resolution, the team also provides strategic technology planning and supports the Public Safety, Human Services, Planning and Development and Finance/Revenue business areas by delivering business driven technology solutions. ETS also serves as an internal consultant to agencies in the analysis, design, implementation, and maintenance of agency specific and enterprise, web, and client server systems.

In addition to the above mentioned activities, the ETS performs technical reviews of all agency hardware/software procurements, serves on the Selection Advisory and Technical Advisory Committees for the Department of Purchasing and Supply Management (DPSM) technical procurements (i.e., RFP's), and participates on Agency/Vendor Teams in the implementation of all new application systems.

Since 1997, the Enterprise Technology Services Group has embraced and adopted IT industry technology architecture innovations that have enhanced business information storage and retrieval activities. The number and type of computer end-users in the County have also changed significantly since 1997 with users being more knowledgeable and sophisticated concerning system features and capabilities of computer systems. As a result, ETS has transformed itself from a purely mainframe-centric Data Services Center to a multi-tasking, multi-platform data services organization capable of supporting the County's ever changing business data requirements. For example, five years ago, most applications were mainframe based, however given the introduction of the Internet and customer driven changes in business service delivery models, server based application systems and have grown dramatically in the County in the past 5 years. (See Charts in Performance Measurements section).

In addition to the mainframe, ETS now supports over 160 centrally managed UNIX and Intel servers that support the County's email system, and applications for the Library, Public Works, Finance/Revenue and Human Services business areas. In addition, to keep pace with citizen and agency demand for data that is accurate, readily available and portable, ETS database support has expanded to include more than 116 ORACLE, BTRIEVE, and SQL Server databases. This is in addition to the 124 existing mainframe IDMS and DB2 databases. Correspondingly, data storage requirements have grown by 400 percent in the County since 1997 (see charts in performance workload section).

Department of Information Technology

Enterprise Technology Center (ETC)

The Data Center contains over 160 servers, mainframe and mini-computers, high speed impact and laser printers, and the enterprise network's central communication lines, routers and hubs; all in a temperature controlled, raised floor environment that can operate on it's own independent power source. It is also the "nerve center" for all of the County's technology, housing both the Technical Support Center and the PC distribution Center where over 1,000 PC's are configured, repaired and distributed each year.

Description	Operating System	Databases, Applications, Purpose
1 IBM 9672 Mainframe	OS/390	DB2, IDMS, VSAM, Application Support
140 Intel Servers	Windows NT, Windows 2000, CITRIX MetaFrame	ORACLE, BTRIEVE, SQL SERVER, Application Support
20 UNIX Servers	UNIX (AIX), HP-UX	ORACLE, TAOS (Library)
IBM 3494 Tape Library	NA	Tape Drives, Backup and Restore of Data, Application Support
IBM 3900 Laser Printer	NA	Real Estate Bills, W-2's, 1099's Personal Property Notices
IBM 6262 Impact Printer	NA	Reports, Multi-part and Special Forms

The ETC provides a system 24 hours a day, 7 days a week for scheduling, monitoring, hardcopy and backup/restore services, and generates and distributes 300,000 documents annually, including Court Dockets, Residential and Commercial inspection schedules, Real Estate Bills, Personal Property taxes, 1099's, W-2's and payroll stubs. The ETC also executes 387,000 batch (overnight) computer programs each year that support financial transactions, mailing labels, and electronic bank file transfers for Community Service Organizations, employees, and business partners (i.e., banks, mortgage companies, State and Federal governments).

ETC is also responsible for Disaster Recovery support for all mission critical County systems. ETS staff maintains an off-site tape storage facility for system backup tapes, and conducts three Disaster Recovery exercises each year. During the Disaster Recovery exercise, systems are installed and tested at the County's Disaster Recovery "hot" site by County employees to ensure business continuity in the event of a Data Center disaster (flooding, fire, tornado, etc.).

The Systems Management Branch supports 5 different database management systems (DB2, ORACLE, IDMS, SQLSERVER, BTRIEVE), 200 middle-ware/third party products, and 4 operating systems (OS/390 on the mainframe, open systems and e-government hardware platforms). This group responds to over 1,500 requests each year from County agencies and citizens for assistance in the design and administration of databases, baseline and ad-hoc reports, and the procurement, configuration and deployment of application, file and print servers.

Systems Management (SM) staff maintains the "guts" of all application systems by installing and maintaining server and mainframe operating systems such as WINDOWS NT, WINDOWS 2000, UNIX and OS/390. SM staff also creates and manages over 10,000 User IDs and 117 million middle-ware transactions that support e-government, enterprise and agency-specific applications such as FAMIS, CASPS, ISIS, PAMS, PRISM, SYNAPS, REABS, Fire, Police, and billing and client tracking systems of the Water Authority and Office for Children.

Department of Information Technology

SM staff is responsible for the development of all County server, database and operating system standards and also provides multi-platform (server, mainframe) "quick response" teams to resolve agency IT emergencies. Examples of quick-response activities include fixing agency servers or databases that have crashed, developing new reports required for FOIA inquiries, and supporting agency developed systems that flounder after the "departure" of agency IT staff or vendors.

Initiatives:

- Implementation of a Storage Area Network (SAN) to better address the explosive growth in storage. Benefits of the SAN include:
 - Providing the ability to share data across different platforms rather than building "islands of data";
 - Allowing users to increase their storage as needed instead of buying a new server as applications max out; and,
 - Reducing storage costs by standardizing on a single enterprise solution rather than operating system specific storage solutions.

The SAN will reduce the total cost of ownership, and reduce the return on investment for storage and related acquisitions by providing scaleable storage capacity that will allow users to increase their storage as needed, and provide a single resource point for storage for all platforms and applications.

- County-wide migration of servers to Windows 2000 (Active Directory Services).

The Windows 2000 server migration will:

- provide one standard server operating system for all servers throughout the County that will centralize the management of network resources,
- streamline the administration of user id's and passwords and,
- implement group policies that will standardize desktop configurations thereby reducing the time required to fix end-user PC problems.

Migrating servers to Windows 2000 will eliminate existing incompatibilities among server operating systems that hinder application deployments and user access to data and will position the County to implement e-government applications, faster and more efficiently. End-users will have a single point of entry to County data (based on need) and County IT staff will have the capability to maximize limited training resources on the mastery of one server operating system to enhance staff's ability to administer the network server infrastructure.

- County-wide migration of desktops to Office-XP and Systems Management Server (SMS).

The migration of desktops to Office-XP, Microsoft's latest version of the Office Suite, will facilitate improved business communications and data sharing and will also provide a platform with automated capabilities for work group collaboration and coordination. Specifically, this migration will extend mainstream desktop productivity tool to integrate with emerging Internet and Intranet capabilities.

Department of Information Technology

The implementation of SMS on desktops will automate the distribution of software to desktops, and allow staff to resolve desktop problems electronically rather than visiting each individual PC thereby reducing the time and cost to support desktops throughout the County.

Accomplishments:

- Converted the County's enterprise e-mail system from a mainframe text-based system to a Web enabled system that more effectively meets County business requirements (file attachments, public folders, GUI interface, etc.)
- Improved public access to County information assets by integrating legacy corporate databases with front-end tools such as the Web, Kiosk, Interactive Voice Response systems, and CPAN. Examples include County e-government initiatives such as real estate property assessments, tax payments, parking tickets, scheduling building inspections, and checking the status of building plan reviews.
- Developed, tested on 8 different occasions, and implemented a Disaster Recovery Plan for mission critical County systems to ensure business continuity in the event of a disaster.
- Met, and exceeded agency and public demand for PC Graphical User Interface (GUI), and server access to County data by implementing 160 servers and 35 new databases.
- Participated in the successful implementation of new systems by supporting all new system hardware and operating system requirements.
- Maintained a 99.8 percent system availability rate (does not include scheduled system maintenance time) for enterprise application systems.

It should be noted that ETS has been viewed quite favorably in a recent study performed by the Gartner Group, the IT industry's leading management consulting firm. The Gartner Group has found that ETS's desktop and server total cost of ownership is significantly lower than our peers in both the public and private sectors. Therefore, ETS supports the County's hardware and software infrastructure which was found to be more efficient and cheaper than other private or public IT support organizations similar in size and scope to ETS.

There are several challenges faced by ETS including the successful implementation of new systems initiatives in Fund 104 that require infrastructure support due to the speed of technology change in the IT industry, and the implementation of distributed systems which require far more resources than did traditional mainframe systems.

► Method of Service Provision

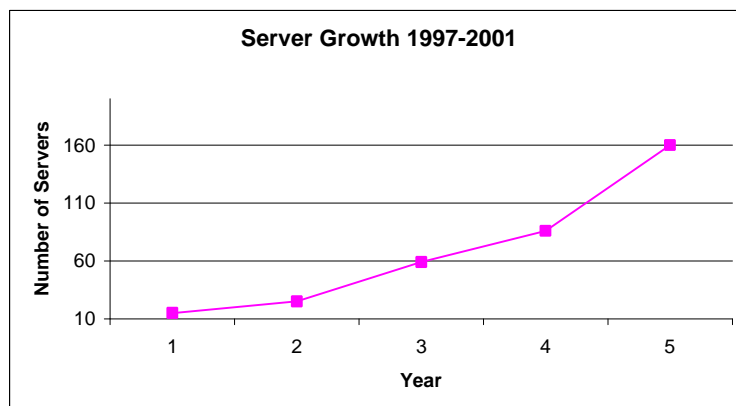
Services are provided primarily by internal staff. Consultants/contractors are utilized as needed for special projects or for areas where additional staffing is needed. Recipients of these services include: e-government; Corporate Applications; Communications Technologies; User Support Services; GIS; all Fairfax County agencies; and the Board of Supervisors' offices.

The ETS is funded both by the General Fund and by Fund 505.

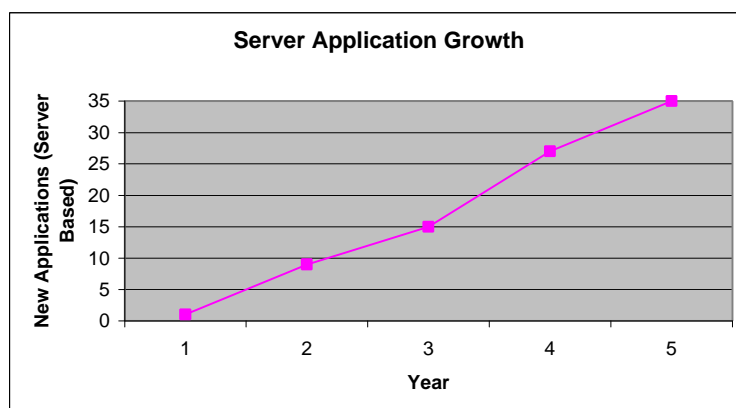
Hours of operation are 365 days a year, 7 days a week, 24 hours a day for critical services. Both onsite and on-call support are provided.

► **Performance/Workload Related Data**

1. Server Growth - NT & AIX, DIT centrally managed Server Workload Growth 1997-2001.

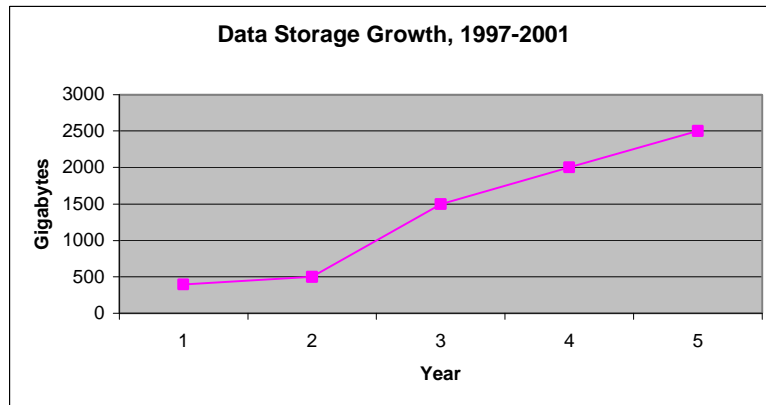


2. Server Application Workload Growth of DIT Applications 1997-2001.



Department of Information Technology

3. Data Storage Growth 1997-2001.



Productivity Metrics (FY 2000)

Description	Primary Business Area Support	Additional Business Area Support	Total
CICS Transactions (Annual)	HS, PD, PS, FRP	Water Authority, Court System, NOVA Soil Conservation Agency, Schools	117,960,000
Documents Produced (Annual) and Distributed	HS, PD, PS, FRP	Same as above	300,000
Databases Supported (Includes ORACLE, DB2, and BTRIEVE, IDMS, SQLSERVER)	Citizens and Business Partners HS, PD,PS,FRP	Same as above	240
User Requests for Assistance	HS, PD, PS,FRP	Same as above	1,500
Mainframe Applications Supported	HS, PD, PS,FRP	Same as above	100
Client Server Applications Supported	HS, PD, PS,FRP	Same as above	35
Users Supported (Mainframe & Server)	HS, PD, PS,FRP	Same as above	10,000
Fund 104 Projects Supported	HS, PD, PS,FRP	Same as above	28
Servers Supported (includes AIX & NT)	HS, PD, PS,FRP	Same as above	240*
Batch Jobs Executed (Annual)	HS, PD, PS,FRP	Same as above	387,216

HS = Human Services Agencies

PD = Planning and Development Agencies

PS = Public Safety Agencies

FRP = Finance, Revenue, Purchasing & Management and Budget Agencies

* = Includes centrally managed (160) and Agency (80) servers